

## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 1-2, 5-7 and 10 have been amended. Claims 3 and 8 have been cancelled. No new matter is being added. Claims 1-2, 4-7, 9-10 and 14 are pending.

### *Claim objections*

Claims 5 and 10 were objected to for informalities. Claims 5 and 10 have been amended to address the issues raised in the Office Action, and applicants submit that the objections to claims 5 and 10 have been overcome.

### *Rejections under 35 U.S.C. § 103*

Claims 1, 3, 6, 8 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,697,225 to Lindae et al. ("Lindae") in view of U.S. Patent No. 6,626,565 to Ishida ("Ishida"). Claims 2, 4-5, 7 and 9-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lindae and Ishida, and further in view of U.S. Patent No. 4,972,307 to Takatsuji et al. ("Takatsuji"). Applicants respectfully traverse these rejections for at least the following reasons.

Independent claims 1 and 6, as amended, each recite that "the reflection surface includes a plurality of segments, and is formed of a free-form surface obtained by deforming a reference ellipsoid of revolution, wherein the reflection surface is formed of a free-form surface obtained by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution." (emphasis added). Lindae, Ishida, and Takatsuji fail to disclose or suggest at least this feature of claim 1, or the advantages thereof.

Lindae does not disclose the reflection surface as recited in claims 1 and 6, formed of a free-form surface obtained by deforming a reference ellipsoid of revolution, wherein the

reflection surface is formed of a free-form surface obtained by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution. Lindae merely discloses that portions (upper right hand wall portion and lower left hand wall portion) of its reflector are for a paraboloid-ellipsoid sector. Thus, Lindae merely discloses a reflector which includes portions that are paraboloid-ellipsoid in shape, but does not suggest that these portions are formed of a free-form surface obtained by deforming a reference ellipsoid, wherein the reflection surface is formed of a free-form surface obtained by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution. Thus, Lindae fails to disclose the reflection surface as recited in claims 1 and 6.

With respect to the claimed feature of “by deforming a reference ellipsoid of revolution”, the Office Action states on page 2 “even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.” While applicants do not disagree with this statement, applicants submit that for the product disclosed by Lindae, i.e., the reflector, the portions that are paraboloid-ellipsoid in shape would not be formed by deforming a reference ellipsoid of revolution specifically by by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution, as recited in claim 1.

Ishida was cited for allegedly disclosing a headlamp with a condenser lens, but fails to cure the deficiencies of Lindae. Takatsuji was cited for allegedly disclosing a headlamp with a diffuse reflection surface, but fails to cure the deficiencies of Lindae.

Moreover, the headlamps of claims 1 and 6, with their specifically recited reflection surfaces, would not have been obvious in view of Lindae. Lindae not only does not disclose or suggest a reflection surface formed of a free-form surface obtained by deforming a reference ellipsoid of revolution, wherein the reflection surface is formed of a free-form

surface obtained by stretching the reference ellipsoid of revolution in one direction and pushing down the reference ellipsoid of revolution in other direction perpendicular to the one direction to deform the reference ellipsoid of revolution, Lindae provides no guidance as how to proceed in deforming a reference ellipsoid of revolution in order to arrive at a reflectance surface having the properties as recited in claims 1 and 6, nor does Lindae suggest that deforming its reflection surface would be beneficial for its reflector.

Independent claims 2 and 7 contain all the limitations of independent claims 1 and 6, respectively, and thus are patentable for analogous reasons. Moreover, both claims 2 and 7 recite “a first continuous segment that forms diffused light at a center portion of the light distribution pattern; a second continuous segment that forms spot light at the center portion.” Lindae fails to suggest this feature of claims 2 and 7. The Office Action equates portions 15 or 16 of Lindae with the first continuous segment as recited, and portions 11 or 12 of Lindae with the second continuous segment as recited. In contrast to the first continuous segment of claims 2 and 7, however, portions 15 and 16 of Lindae generate light beams 25, 26 forming a spot of light, and they do not form diffused light at a portion of the light pattern.

Takatsuji does not cure the deficiencies of Lindae, in that even if Takatsuji discloses reflective segments including a diffuse reflective surface, one skilled in the art would not have modified the Lindae headlight to arrive at the invention of claims 2 and 7. The Lindae reflector 7 already has zones 13 and 14 which provide dispersed light (col. 3, lines 5-8). There is no need in the Lindae system to include diffuse reflective surfaces of Takatsuji in the reflector 7, because Lindae already has dispersive surfaces in zones 13 and 14. Furthermore, Lindae does not disclose the relative arrangement of the first through fourth segments with the properties of those segments as recited in claims 2 and 7.

The dependent claims are patentable for at least the same reasons as their respective independent claims, as well as for further patentable features recited therein. For example, claims 5 and 10 recite “a portion of the diffuse reflection surface, which is not substantially illuminated by the light from the light source when a predetermined light distribution pattern for a low beam is formed, includes a luminous intensity-improving reflection surface that

increases luminous intensity at the one end and the other end portions formed substantially in a rectangular shape by the wide area-illuminating reflection surface” (emphasis added), a feature not suggested by Lindae, Ishida and Takatsuji in the context of those claims.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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